

CLAIMS

I claim:

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1. A laminated fabric comprising:
a fabric comprising two surfaces and porosity;
an adhesive applied to at least a first surface of the fabric; and
a polymeric film which is pressure laminated to the adhesive-coated first surface of the
10 substrate, wherein the fabric is treated with a curing agent, said curing agent comprising at least
two amine moieties per molecule of curing agent, prior to pressure laminating in an amount
sufficient to react with the adhesive and thereby reduce adhesive wicking into the fabric
porosity during the pressure lamination.

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2. The laminated fabric of claim 1 wherein the curing agent comprises a
an alkyl di-amine, an alkyl tri-amine, an ether di-amine, an ether tri-amine, an alkyl-ether di-
amine, an alkyl-ether tri-amine, or a mixture thereof.

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3. The laminated fabric of claim 1 wherein the curing agent comprises an
amine with at least three amine moieties per molecule of curing agent.

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4. The laminated fabric of claim 1 wherein the curing agent comprises
a poly(alkyl-ether) di-amine, a poly(alkyl-ether) tri-amine, or a mixture thereof, with an average
molecular weight of between about 100 and about 4000.

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5. The laminated fabric of claim 1 wherein the curing agent comprises
a poly(oxypropylene) di-amine, a poly(oxypropylene) tri-amine, or a mixture thereof, with an
average molecular weight of between about 150 and about 1000.

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6. The laminated fabric of claim 1 wherein the curing agent comprises a
polyetheramine, and the adhesive comprises a urethane, an acrylonitrile, or a mixture thereof.

7. The laminated fabric of claim 1 further comprising a silicone polyurethane copolymer cross-linked with a blocked isocyanate, said silicone polyurethane copolymer contacting the polymeric film at a loading of from about 0.05 to about 2 ounces per square yard of film.

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8. The laminated fabric of claim 1 wherein the curing agent comprises alkyl ether amine, and the fabric is treated by contacting a solution of from about 3 to about 10% alkyl ether amine in a carrier of water, solvent, or mixture thereof, and then drying fabric to remove the water, solvent, or mixture thereof.

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9. The laminated fabric of claim 8 wherein the drying is done by exposing the treated fabric to air at about 100°C to 190°C for a time sufficient to remove at least 90% of the carrier.

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11. The laminated fabric of claim 1 wherein the adhesive comprises a moisture cure urethane adhesive.

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10. The laminated fabric of claim 1 wherein the fabric comprises nylon or polyester, the polymeric film comprises a polyether, the curing agent comprises a triamine compound, the adhesive comprises a polyurethane, and the adhesive is placed on the fabric at a loading of between about 0.4 to 3 ounces adhesive per square yard of fabric.

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11. The laminated fabric of claim 10 wherein the adhesive is placed on the fabric at a loading of between about 0.6 to 2 ounces adhesive per square yard of fabric.

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12. The laminated fabric of claim 10 wherein the adhesive is placed on the fabric at a loading of less than about 1.0 ounces adhesive per square yard of fabric.

13. The coated fabric of claim 1 wherein the adhesive is applied to a loading of about 1.0 or less ounces adhesive per square yard of fabric.

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13. The coated fabric of claim 1 wherein the adhesive coated fabric is oven dried at a temperature of between about 30°C and about 140°C.

5 14. The coated fabric of claim 1 wherein the adhesive coated fabric is oven dried at a temperature of between about 50°C and about 80°C.

15. The coated fabric of claim 1 wherein the polymeric film comprises a polyether and the thickness of the film is less than about 1 mil.

10 16. The coated fabric of claim 2 wherein the silicone polyurethane copolymer is applied to a thickness of from about 0.05 to 2 oz/yard².

15 17. The coated fabric of claim 7 wherein the silicone polyurethane copolymer is applied to a thickness of about 1.0 ounces per square yard of film.

18. A coated fabric comprising a fabric substrate comprising a curing agent layer disposed on the fabric substrate, an adhesive, and a thermoplastic or thermoset polymeric film pressure-laminated thereon, wherein the adhesive is at least partially cross linked by reaction with the curing agent prior to pressure lamination so the adhesive penetration into the fabric substrate is reduced.

25 19. The coated fabric of claim 22 wherein the curing agent comprises an alkyl di-amine, an alkyl tri-amine, an ether di-amine, an ether tri-amine, and alkyl ether di-amine, an alkyl ether tri-amine, a poly(ether)di-amine, a poly(ether)tri-amine, a poly(alkyl-ether)diamine, a poly(alkyl-ether)triamine or a mixture thereof, which has been pre-coated on the fabric.

30 20. An air bag comprising the coated fabric of claim 18.

21. A process for manufacturing a coated fibrous fabric comprising:
coating a fabric with a curing compound that increases viscosity of an adhesive;
35 applying an adhesive to the coated fabric; and

pressure laminating a thermoplastic film to the adhesive-coated fabric,
wherein the curing compound reduces penetration of the adhesive into the fabric compared with
a coated fabric manufactured without the curing compound.

5 22. The process of claim 20 wherein the compound adheres to the fibers and thereby
substantially prevents the adhesive from physically entering the fabric.

23. The process of claim 20 wherein the curing compound increases the viscosity
10 of the adhesive contacting the fabric and thereby substantially preventing the adhesive from
entering the fabric.

24. The process of claim 20 wherein the compound is a cross linking agent, which
15 cross links the adhesive contacting the fabric and thereby substantially prevents the adhesive
from entering the fabric.

25. The process of claim 23 wherein the coated fibrous fabric further comprises a
silicone- or acrylic- containing compound or mixture thereof applied to the film in an amount
20 sufficient to ensure no sticking or blocking under heat and pressure of the coated fibrous fabric.

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